DATE: January 30, 1997

FROM: Minnesota Fatality Assessment and Control Evaluation (MN FACE) Program
Minnesota Department of Health

SUBJECT: MN FACE Investigation 96MN08201
Marina Employee Dies After Falling From Marina Storage Building Roof

SUMMARY

A 30-year-old marina mechanic (victim) died of injuries he sustained when he fell from the roof of a storage building. He used a ladder to access the roof of the building to install weather stripping along the ridge of the roof. He was not wearing or using any type of personnel fall protection equipment. While he worked on the roof, two other employees worked in a nearby building. About one hour after the victim climbed onto the roof, it began to snow and the roof became slippery. The two coworkers noticed the falling snow and decided to check on the victim's progress installing the weather stripping. The victim told his coworkers that he was finished and that he was coming down from the roof. One of the coworkers told him to stay near the ridge of the roof while the coworkers got a rope to help him safely off of the roof. The coworkers obtained a rope and were approaching the building where the victim had been working when they saw him sliding down the roof. The victim slid off the edge of the roof and struck the ladder as he fell to the ground. The coworkers ran to the victim who was unconscious and not breathing. While one of them administered resuscitation efforts, the other ran to the marina office and placed a call to emergency medical personnel. They arrived at the scene shortly after being notified and transported the victim to a local hospital where he died approximately one hour later. MN FACE investigators concluded that to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- whenever work is performed at an elevation where the potential for a fall exists, fall protection equipment should be used; and

- employers should design, develop, and implement a comprehensive safety program.

INTRODUCTION

On November 21, 1996, MN FACE investigators were notified of a work-related fatality that occurred

on November 20, 1996. The local police department was contacted and releasable information obtained. Information obtained included a copy of their report of the incident. A site investigation was conducted by a MN FACE investigator on December 17, 1996. During MN FACE investigations, incident information is obtained from a variety of sources such as law enforcement agencies, county coroners and medical examiners, employers, coworkers and family members.

The employer was a recreational boat marina that had been in existence for approximately forty years. It was owned by the current operator for four years and had a work force that ranged from six employees during the winter months to 12 employees during the summer months. The victim had been employed for approximately nine months as a marine mechanic. In addition to performing boat repair and service tasks he was also responsible for performing general "marina" tasks such as dock and building repair and maintenance.

INVESTIGATION

On the day of the incident the victim was doing various general maintenance tasks associated with the "seasonal closing" of a marina. At the time of the incident, the victim was installing weathering stripping along the ridge or roof peak of a storage building that was used to store boats. The building was 66 feet wide and 200 feet long. The distance from the ground to the roof eaves on the sides of the building was 28 feet. The building exterior was tin and the roof had a 4-12 pitch[1] or slope and was also covered with tin panels.

The victim used an extension ladder to access the roof from the east side of the building. He was not wearing or using any type of personnel fall protection equipment. He was wearing a pair of hard soled tennis shoes. He climbed onto the roof and worked alone installing weather stripping along the ridge of the roof to prevent moisture from entering the building. While he worked on the roof, two other employees were performing other tasks in a nearby building. Approximately one hour after the victim climbed onto the roof, it began to snow and the roof became slippery from a combination of melted and unmelted snow. The two coworkers noticed the snow falling and decided to check on the victim's progress installing the weather stripping.

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1 Pitch: The specified downward slant of a roof. A roof with a 4-12 pitch has 4 inches of vertical drop for every 12 inches of horizontal measurement.

The victim stated that he was finished with the task and that he was coming down from the roof. One of the coworkers told him to stay near the ridge of the roof while the coworkers got a rope to help him safely off of the roof. The coworkers obtained a rope from a nearby marina building and were approaching the building where the victim had been working when they saw him sliding down the roof. The victim slid off the edge of the roof and struck the ladder as he fell to the ground. The coworkers ran to the victim who was unconscious and not breathing. While one of them administered resuscitation efforts, the other ran to the marina office and placed a call to emergency medical personnel. They arrived at the scene shortly after being notified and transported the victim to a local hospital where he died approximately one hour after he arrived.

CAUSE OF DEATH

The cause of death listed on the death certificate was closed head injury with skull fractures due to fall.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Whenever work is performed at an elevation where the potential for a fall exists, fall protection equipment should be used.

Discussion: Whenever work is performed at an elevation where the potential for a fall exists, workers should use appropriate fall protection equipment. The victim was working at an elevation where the potential for a fall of more than 10 feet existed. OSHA Standard 29 CFR 1926.28 (a) states that "the employer is responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions." Adequate fall protection equipment, such as lifelines, safety belts and lanyards, should always be used whenever the potential for a fall exists. In addition, in situations where the use of a traditional safety belt/lanyard combination is impractical, an alternate form of fall protection (e.g., safety nets as specified in OSHA Standard 29 CFR 1926.105) should be used. If the victim had been using fall protection equipment (i.e., lifeline, safety belt, and lanyard), this fatality probably would have been prevented.

Recommendation #2: Employers should design, develop, and implement a comprehensive safety program.

Discussion: Employers should ensure that all employees are trained to recognize and avoid hazardous work conditions. A comprehensive safety program should address all aspects of safety related to specific tasks that employees are required to perform. OSHA Standard 1926.21 (b) (2) requires

employers to "instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury." Safety rules, regulations, and procedures should include the recognition and elimination of hazards associated with tasks performed by employees.

REFERENCES

1. Office of the Federal Register: Code of Federal Regulations, Labor, 29 CFR Part 1926.21 (b) (2), 29 CFR 1926.28 (a) and 29 CFR 1926.105 (a) U.S. Department of Labor, Occupational Safety and Health Administration, Washington, D.C., July 1, 1993.

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